Abstract:

In vitro study of the inhibitory effect of allicin -the active component of garlic extract- on *H. pylori* urease

Background and objectives: Uerase is a key virulence factor contributes to the pathogenesis of *H. pylori*. Inhibition of urease makes it easily to be removed from the stomach and may reduce the virulence of bacteria. In this study we investigated the effect of aqueous garlic extract on ureolytic activity of *H. pylori* urease.

Methods: The activity of urease was assayed in 10 mM phosphate buffer pH 6.8 containing 0.002 % of phenol red and 3 mM of urea and the reaction was measured by micro plate reader (570 nm). The urease inhibition experiments were carried out in the same manner of urease activity assay in the presence of various concentrations of extract of garlic with known amount of allicin. The residual activity was determined relative to allicin-free control.

Results: Allicin inhibits urease in a dose-dependent manner. Incubation of urease with 200 µL garlic extract containing 240 µg concentration of allicin inhibited 92 % of enzyme activity.

Conclusion: The results indicated that allicin potentially inhibits the *H. pylori* urease and may provide a new line of investigation on *H. Pylori* related diseases in the future.

Key words: *H. pylori*, Urease, Allicin, Garlic extract